WHAT IS CLAIMED IS:

1. A screw formed of cortical bone for use in the human body with an implant having a screw hole for receiving at least a portion of a screw therethrough, said screw comprising:

a leading end, a trailing end opposite said leading end, and a shaft therebetween, said shaft having a mid-longitudinal axis and a length;

a thread extending from said shaft along at least a portion of its length, said thread having an outer diameter dimensioned to pass through the screw hole in the implant;

said trailing end being configured to cooperatively engage at least a portion of the screw hole of the implant so as to prevent said screw from linear motion along the mid-longitudinal axis of said shaft in a direction opposite to the direction of insertion when said screw is threaded through the screw hole to attach the implant to a bone portion of the human body; and

said screw being formed substantially of cortical bone of a single cortical thickness.

2. The screw of claim 1, further comprising an enlarged portion proximate said trailing end with a dimension transverse to the mid-longitudinal axis of said shaft greater than said outer diameter of said thread, said enlarged portion configured to prevent said head from passing through the screw hole in the implant.

3. The screw of claim 2, wherein said enlarged portion forms a head.

4. The screw of claim 2, wherein said enlarged portion forms a lip.

5. The screw of claim 1, wherein said trailing end includes a second thread having a different thread pitch than said thread along said shaft.

6. The screw of claim 5, wherein the thread pitch of said second thread is similar to a metal screw pitch.

7. The screw of claim 5, wherein the thread pitch of said thread along said shaft is similar to a wood screw pitch.

8. The screw of claim 1, wherein the thread pitch of said thread along said shaft is similar to a wood screw pitch.

9. The screw of claim 1, wherein at least a portion of said trailing end is expandable.

10. The screw of claim 9, wherein at least a portion of said trailing end is divided into at least two members with an opening therebetween.

11. The screw of claim 10, further comprising an insert configured to fit into said opening of said trailing end and to move said at least two members apart when inserted into said opening.

12. The screw of claim 11, wherein said insert is configured to be inserted by linear advancement into said opening.

13. The screw of claim 12, wherein said insert has a cruciate shape and said opening has a corresponding cruciate shape.

14. The screw of claim 11, wherein said insert is configured to be inserted by rotational movement into said opening.

15. The screw of claim 14, wherein said insert is threaded.

16. The screw of claim 1, wherein at least a portion of said trailing end is configured to cooperatively engage a driving instrument for insertion of said screw.

17. The screw of claim 16, wherein said trailing end includes a recess to cooperatively engage a driving instrument.

18. The screw of claim 17, wherein said recess is one of cruciate-shape and hex-shaped.

19. The screw of claim 16, wherein said trailing end includes a protrusion to cooperatively engage a driving instrument.

20. The screw of claim 19, wherein said protrusion has a hex-shaped perimeter.

21. The screw of claim 1, wherein said thread is sharper proximate said leading end than proximate said trailing end.

22. The screw of claim 1, wherein said thread has a V-shaped cross section with an apex and a base adjacent to said shaft, said base being substantially wider than said apex.

23. The screw of claim 1, wherein said thread has a peak as measured from said shaft, the peak being greater proximate said leading end than said trailing end.

24. The screw of claim 1, wherein said shaft has a root diameter that increases in the direction from said leading end to said trailing end.

25. The screw of claim 1, wherein said leading end forms a tip and said tip is fluted.

26. The screw of claim 1, wherein said cortical bone is obtained from a human.

27. The screw of claim 1, wherein said cortical bone is obtained from a generally intramembraneously formed cortical bone.

28. The screw of claim 27, wherein said cortical bone is obtained from a human skull.

29. The screw of claim 1, wherein said cortical bone is obtained from a large tubular bone of a human.

30. The screw of claim 29, wherein said cortical bone is from the diaphyseal region of said large tubular bone.

31. The screw of claim 29, wherein the tubular bone is a femur.

32. The screw of claim 1, further comprising a bioresorbable material other than cortical bone.

33. The screw of claim 32, wherein said material includes bioresorbable plastics.

34. The screw of claim 33, wherein said material includes at least one of glycolide polymers, lactide, capralactone, trimethylene carbonate, and dioxanone.

35. The screw of claim 1, wherein said screw comprises bone growth promoting material.

36. The screw of claim 35, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

37. The screw of claim 1, wherein said screw is treated with a bone growth promoting substance.

38. An apparatus for locking bone screws formed of cortical bone for use in the human body to an implant having a screw hole for receiving at least a portion of a screw therethrough, said screw comprising:

at least one bone screw formed substantially of cortical bone of a single cortical thickness, said screw having a leading end, a trailing end opposite said leading end, and a shaft therebetween, said shaft having a mid-longitudinal axis and a length, a thread extending from said shaft along at least a portion of its length, said thread having an outer diameter dimensioned to pass through the screw hole in the implant, said screw having an enlarged portion proximate said trailing end with a dimension transverse to the mid-longitudinal axis of said shaft greater than said outer diameter of said thread, said enlarged portion configured to prevent said head from passing through the screw hole in the implant; and

a screw lock formed substantially of cortical bone configured to cooperatively engage at least a portion of the implant so as to prevent said screw from linear motion along the mid-longitudinal axis of said shaft in a direction opposite to the direction of insertion when said screw is threaded through the screw hole to attach the implant to a bone portion of the human body.

39. The apparatus of claim 38, wherein said lock is made cortical bone of a single cortical thickness.

40. The apparatus of claim 38, wherein said lock includes a threaded perimeter.

41. The apparatus of claim 38, wherein said lock has a bottom surface configured for cooperating with at least one of said screws.

42. The apparatus of claim 38, wherein said lock has a head and a threaded shaft adapted to screw into the implant.

43. The apparatus of claim 38, wherein said lock is configured to engage a driving instrument.

44. The apparatus of claim 38, wherein said lock includes a recess.

45. The apparatus of claim 44, wherein said recess is cruciate.

46. The apparatus of claim 38, wherein said recess is hex-shaped.

47. The apparatus of claim 38, wherein said lock includes an opening for allowing a portion of the instrument driver to pass through said lock.

48. The apparatus of claim 38, wherein said lock has at least one removed portion to permit insertion of at least one of said screws into a bone screw receiving hole when said lock is attached to the implant when said lock is in a first position, said lock is adapted to lock at least one of said screws to the implant when moved to a second position.

49. The apparatus of claim 38, wherein said lock includes a protrusion protruding therefrom.

50. The apparatus of claim 49, wherein said protrusion has a hex-shaped perimeter.

51. The apparatus of claim 38, wherein said lock is part of a screw head.

52. The apparatus of claim 38, in combination with an implant having at least one bone screw receiving hole and a screw lock receiving aperture associated with said bone screw receiving hole.

53. The apparatus of claim 52, wherein said bone screw receiving hole and said screw lock receiving aperture are coaxial and said screw lock cooperatively engages at least a portion of said screw lock receiving aperture to lock a bone screw to said implant.

54. The apparatus of claim 53, wherein said lock is threaded.

55. The apparatus of claim 38, wherein said implant is one of a plate, spinal fusion implant, and cortical bone dowel.

56. The apparatus of claim 38, wherein said enlarged portion forms a head.

57. The apparatus of claim 38, wherein said enlarged portion forms a lip.

58. The apparatus of claim 38, wherein said trailing end includes a second thread having a different thread pitch than said thread along said shaft.

59. The apparatus of claim 38, wherein the thread pitch of said second thread is similar to a metal screw pitch.

60. The apparatus of claim 58, wherein the thread pitch of said thread along said shaft is similar to a wood screw pitch.

61. The apparatus of claim 38, wherein the thread pitch of said thread along said shaft is similar to a metal screw pitch.

62. The apparatus of claim 38, wherein at least a portion of said trailing end is expandable.

63. The apparatus of claim 62, wherein at least a portion of said trailing end is divided into at least two members with an opening therebetween.

64. The apparatus of claim 63, further comprising an insert configured to fit into said opening of said trailing end and to move said at least two members apart when inserted into said opening.

65. The apparatus of claim 64, wherein said insert is configured to be inserted by linear advancement into said opening.

66. The apparatus of claim 65, wherein said insert has a cruciate shape and said opening has a corresponding cruciate shape.

67. The apparatus of claim 64, wherein said insert is configured to be inserted by rotational movement into said opening.

68. The apparatus of claim 67, wherein said insert is threaded.

69. The apparatus of claim 38, wherein at least a portion of said trailing end is configured to cooperatively engage a driving instrument for insertion of said screw.

70. The apparatus of claim 69, wherein said trailing end includes a recess to cooperatively engage a driving instrument.

71. The apparatus of claim 70, wherein said recess is one of cruciate-shaped and hex-shaped.

72. The apparatus of claim 69, wherein said trailing end includes a protrusion to cooperatively engage a driving instrument.

73. The apparatus of claim 72, wherein said protrusion has a hex-shaped perimeter.

74. The apparatus of claim 38, wherein said thread is sharper proximate said leading end than proximate said trailing end.

75. The apparatus of claim 38, wherein said thread has a V-shaped cross section with an apex and a base adjacent to said shaft, said base being substantially wider than said apex.

76. The apparatus of claim 38, wherein said thread has a peak as measured from said shaft, the peak being greater proximate said leading end than said trailing end.

77. The apparatus of claim 38, wherein said shaft has a root diameter that increases in the direction from said leading end to said trailing end.

78. The apparatus of claim 38, wherein said leading end forms a tip and said tip is fluted.

79. The apparatus of claim 38, wherein said cortical bone is obtained from a human.

80. The apparatus of claim 38, wherein said cortical bone is obtained from a generally intramembraneously formed cortical bone.

81. The apparatus of claim 80, wherein said cortical bone is obtained from a human skull.

82. The apparatus of claim 38, wherein said cortical bone is obtained from a large tubular bone of a human.

83. The apparatus of claim 82, wherein said cortical bone is from the diaphyseal region of the tubular bone.

84. The apparatus of claim 82, wherein the tubular bone is a femur.

85. The apparatus of claim 38, further comprising a bioresorbable material other than cortical bone.

86. The apparatus of claim 85, wherein said material includes bioresorbable plastics.

87. The apparatus of claim 86, wherein said material includes at least one of glycolide polymers, lactide, capralactone, trimethylene carbonate, and dioxanone.

88. The apparatus of claim 38, wherein said screw comprises bone growth promoting material.

89. The apparatus of claim 88, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

90. The apparatus of claim 38, wherein said screw is treated with a bone growth promoting substance.

91. A screw formed of cortical bone for use in the human body, said screw comprising a leading end, a trailing end opposite said leading end, and a shaft therebetween, said shaft having a mid-longitudinal axis, a length, and a thread extending from said shaft along at least a portion of its length, said shaft having a cross section transverse to said mid-longitudinal axis through said thread having a concavedly arcuate portion and a covexedly arcuate portion opposite said concavedly arcuate portion, said cross section bisecting a rotation of said thread.

92. The screw of claim 91, wherein said cross section has opposite convex portions with approximately the same radius, said concavedly arcuate portion and said convexedly arcuate portion being between said opposite convex portions, said convexedly arcuate portion having a radius greater than the radius of said opposite convex portions, said cross section being through said concavedly arcuate portion of said thread.

93. The screw of claim 91, wherein said trailing end is configured to cooperatively engage at least a portion of the screw hole of an implant so as to prevent said screw from linear motion along the mid-longitudinal axis of said shaft in a direction opposite

to the direction of insertion when said screw is threaded through a screw hole to attach the implant to a bone portion of the human body.

94. The screw of claim 91, wherein said screw is formed substantially of cortical bone of a single cortical thickness.

95. The screw of claim 94, further comprising an enlarged portion proximate said trailing end with a dimension transverse to the mid-longitudinal axis of said shaft greater than said outer diameter of said thread, said enlarged portion configured to prevent said head from passing through the screw hole in the implant.

96. The screw of claim 95, wherein said enlarged portion forms a head.

97. The screw of claim 95, wherein said enlarged portion forms a lip.

98. The screw of claim 94, wherein said trailing end includes a second thread having a different thread pitch than said thread along said shaft.

99. The screw of claim 98, wherein the thread pitch of said second thread is similar to a metal screw pitch.

100. The screw of claim 98, wherein the thread pitch of said thread along said shaft is similar to a wood screw pitch.

101. The screw of claim 94, wherein the thread pitch of said thread along said shaft is similar to a wood screw pitch.

102. The screw of claim 94, wherein at least a portion of said trailing end is expandable.

103. The screw of claim 102, wherein at least a portion of said trailing end is divided into at least two members with an opening therebetween.

104. The screw of claim 103, further comprising an insert configured to fit into said opening of said trailing end and to move said at least two members apart when inserted into said opening.

105. The screw of claim 104, wherein said insert is configured to be inserted by linear advancement into said opening.

106. The screw of claim 105, wherein said insert has a cruciate shape and said opening has a corresponding cruciate shape.

107. The screw of claim 104, wherein said insert is configured to be inserted by rotational movement into said opening.

108. The screw of claim 107, wherein said insert is threaded.

109. The screw of claim 94, wherein at least a portion of said trailing end is configured to cooperatively engage a driving instrument for insertion of said screw.

110. The screw of claim 109, wherein said trailing end includes a recess to cooperatively engage a driving instrument.

111. The screw of claim 110, wherein said recess is one of cruciate-shape and hex-shaped.

112. The screw of claim 109, wherein said trailing end includes a protrusion to cooperatively engage a driving instrument.

113. The screw of claim 112, wherein said protrusion has a hex-shaped perimeter.

114. The screw of claim 94, wherein said thread is sharper proximate said leading end than proximate said trailing end.

115. The screw of claim 94, wherein said thread has a V-shaped cross section with an apex and a base adjacent to said shaft, said base being substantially wider than said apex.

116. The screw of claim 94, wherein said thread has a peak as measured from said shaft, the peak being greater proximate said leading end than said trailing end.

117. The screw of claim 94, wherein said shaft has a root diameter that increases in the direction from said leading end to said trailing end.

118. The screw of claim 94, wherein said leading end forms a tip and said tip is fluted.

119. The screw of claim 94, wherein said cortical bone is obtained from a human.

120. The screw of claim 94, wherein said cortical bone is obtained from a generally intramembraneously formed cortical bone.

121. The screw of claim 94, wherein said cortical bone is obtained from a large tubular bone of a human.

122. The screw of claim 121, wherein said cortical bone is from the diaphyseal region of said large tubular bone.

123. The screw of claim 121, wherein the tubular bone is a femur.

124. The screw of claim 94, further comprising a bioresorbable material other than cortical bone.

125. The screw of claim 124, wherein said material includes bioresorbable plastics.

126. The screw of claim 125, wherein said material includes at least one of glycolide polymers, lactide, capralactone, trimethylene carbonate, and dioxanone.

127. The screw of claim 94, wherein said screw comprises bone growth promoting material.

128. The screw of claim 127, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

129. The screw of claim 94, wherein said screw is treated with a bone growth promoting substance.

130. A screw comprising a leading end, a trailing end opposite said leading end, and a shaft therebetween, said shaft having a mid-longitudinal axis, a length, and a thread extending from said shaft along at least a portion of its length, said shaft having a cross section transverse to said mid-longitudinal axis through said thread having a concavedly arcuate portion and a covexedly arcuate portion opposite said

concavedly arcuate portion, said cross section bisecting a rotation of said thread, said screw being formed by the process of cutting a strip of cortical bone having a single cortical thickness from a long bone in the direction of the longitudinal axis of the long bone and machining said strip to form a thread.

131. The screw of claim 130, wherein said strip of cortical bone is cut with a trephine having a diameter greater than the cortical thickness of the long bone.

132. The screw of claim 131, wherein said cross section has opposite convex portions with approximately the same radius, said concavedly arcuate portion and said convexedly arcuate portion being between said opposite convex portions, said convexedly arcuate portion having a radius greater than the radius of said opposite convex portions, said cross section being through said concavedly arcuate portion of said thread.

133. A method for forming a screw made of cortical bone, comprising the steps of:

cutting a strip of cortical bone having a single cortical thickness from a long bone in the direction of the longitudinal axis of the long bone; and

machining said strip to form a screw having a shaft with a mid-longitudinal axis, a length, and a thread extending from said shaft along at least a portion of its length, said shaft having a cross section transverse to said mid-longitudinal axis through said thread having a concavedly arcuate portion and a covexedly arcuate

portion opposite said concavedly arcuate portion, said cross section bisecting a rotation of said thread.

134. The method of claim 133, wherein the cutting step includes the sub-step of using a trephine having a diameter greater than the cortical thickness of the long bone.

135. The method of claim 134, wherein the machining step includes the sub-steps of forming said cross section with opposite convex portions having approximately the same radius, said concavedly arcuate portion and said convexedly arcuate portion being between said opposite convex portions, said convexedly arcuate portion having a radius greater than the radius of said opposite convex portions, said cross section being through said concavedly arcuate portion of said thread.

136. An apparatus comprising:

an implant having at least one threaded bone screw hole, said implant being formed substantially of cortical bone; and

a bone screw formed substantially of cortical bone having a shaft with a leading end and a trailing end opposite said leading end, said shaft having a first threaded portion proximate said trailing end and a second threaded portion along at least a portion of said shaft between said first threaded portion and said leading end, said first threaded portion adapted to cooperatively engaged said threaded of said bone screw hole in said plate.

137. The apparatus of claim 136, wherein said implant is a plate.

138. The apparatus of claim 136, wherein said implant is an interbody spinal fusion implant.